

Site: Shiloh Church Road Site

Task: Excavation

Date: 9/23/19

Predicted Predominant Wind Direction: WSW

Predicted Maximum Wind Speed: 8 mph



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes: AC-5 assigned to Excavation Team.

Radionuclide Air Sampling
Daily Summary
Shiloh Church Road Site
Halifax County, Virginia

Date: 9/23/19

Predicted Predominant Wind Direction: WSW

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result (μCi/mL)	% Of Effluent Concentration Limit	Beta Result (μCi/mL)
Perimeter-1 - Northeast perimeter	<2.03%	1.73E-14	<96.89%	-1.52E-13

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of Derived Air Concentration	Alpha Result (μCi/mL)	% Of Derived Air Concentration	Beta Result (μCi/mL)
AC-5 - Excavation Team	<0.10%	-1.31E-13	<9.92%	-5.44E-12

Comments:

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Air Sampling Unit: F&J LV-1

Calibrator Serial: 3067

Cal Due Date: 1/21/20

Calibrator Serial: 3067					Cal Due Date: 1/21/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		80.0								Post Flow Rate (LPM)					76.8						
Start Date/Time		9/23/19 8:33								Stop Date/Time					9/23/19 17:11						
										Total Liters					38180.8						
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/25/19 14:45		45.6	120	60	95	153	1.76	1.86E-14	6.39E-14	4635	2716	6.64	5.69E-13	1.15E-12							
9/26/19 15:16		70.1	120	60	91	74	0.48	1.83E-14	1.73E-14	4841	2368	-0.88	5.81E-13	-1.52E-13							
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/26/19 15:16		70.1	120	60	91	74	0.48	1.83E-14	1.73E-14	4841	2368	-0.88	5.81E-13	-1.52E-13							
								% Eff Criteria:	<2.03%					% Eff Criteria:	<96.89%						

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Air Sampling Unit: AirCheck XR5000 AC-5

Dry Cal Serial: 132112

Cal Due Date: 7/11/20

Dry Cal Serial: 132112					Cal Due Date: 7/11/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		4.666					Post Flow Rate (LPM)						4.908								
Start Date/Time		9/23/19 9:35					Stop Date/Time						9/23/19 17:25								
							Total Liters						2125.4								
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/26/19 10:49		65.4	120	70	91	39	-0.2	3.09E-13	-1.31E-13	4841	2702	-1.74	9.92E-12	-5.44E-12							
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/26/19 10:49		65.4	120	70	91	39	-0.2	3.09E-13	-1.31E-13	4841	2702	-1.74	9.92E-12	-5.44E-12							
								% DAC:	<0.10%					% DAC:	<9.92%						

Notes: Assigned to Excavation Team.